Name _____ **Class** _____ **Date** _____

Your teacher may watch to see if you can:
● listen carefully to instructions
● use a quadrat correctly
● work safely.

Aim

To estimate the population of a plant on a rectangular lawn.

1 What plant will you investigate? _____

Method

Apparatus
● quadrat
● measuring tape

⚠ Wash your hands well after this experiment. Make sure you don't injure plants or others with the quadrat.

A You are going to take samples using a quadrat. You will be told by your teacher how to use the quadrat and where to place it.

B When you have placed your quadrat, count the number of plants that you are investigating. Count all the plants that are inside the quadrat and any plant that is more than halfway into the quadrat. Write the number in the results table.

Do not count this plant. It is less than halfway into the quadrat.

Count this plant. It is more than halfway into the quadrat.
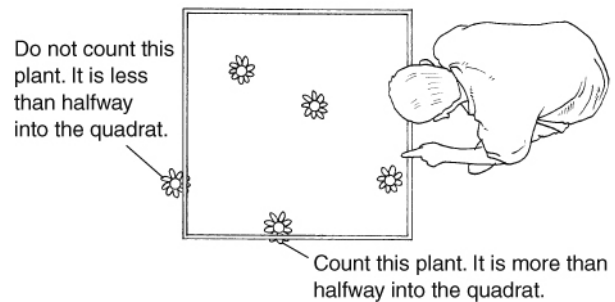
C Repeat steps **A** and **B** nine more times.

D Now calculate the total area of the rectangular lawn.
Show your working. (*Hint*: Measure its length and width in metres.)

Total area of ground = _____ m^2

Recording your results

2 Record your results in this table.

Quadrat	Number of plants	Quadrat	Number of plants
1st		6th	
2nd		7th	
3rd		8th	
4th		9th	
5th		10th	

Considering your results/conclusions

3 a What is the area of one quadrat? _____ m^2

b What is your total sample area (for 10 quadrats)? _____ m^2

c How many plants were in your sample area (10 quadrats)? _____

d What is the area of the piece of ground? _____ m^2

e To work out the estimated population of the plants in the area, complete the following:

× _____
_____ plants contained in _____ m^2 (10 quadrats)

_____ plants contained in _____ m^2 (whole area)
× _____
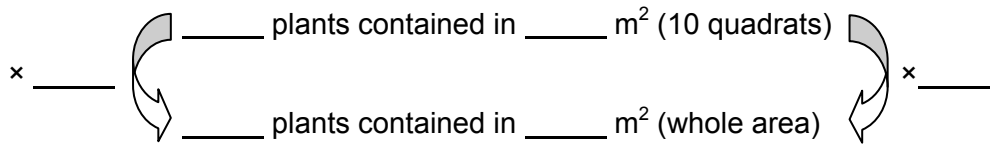
Estimated population = _____

Evaluation

4 a Suggest how you could have made a better estimate of the actual number of plants.

_____

_____

_____

_____

b What would be a drawback of your idea in part **a**?

_____

_____

_____

I can…

● use a quadrat to estimate a population
● evaluate my method.